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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,961	08/25/2000	Peter Augustinius Johannes Achten	7238/OH418	5233

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EXAMINER	
LOPEZ, FRANK D	
ART UNIT	**PAPER NUMBER**
3745	

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/601,961	ACHTEN, PETER AUGUSTINIUS JOHANNE	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE, filed November 19, 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-25 and 27-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-25 and 27-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 28, 2004 has been entered.

Response to Amendment

Applicant's arguments filed April 28, 2004, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 21-25 and 27-45 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection are necessitated by the added limitation of "means for restricting the flow rate".

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

The drawings are objected to because in fig 13 line 56 should be connected to the end of cylinder 54 opposite the rod (so as to be connected to the non-spring chamber).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 21-25 and 27-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21 last two lines "means for restricting the flow rate" is a 112, 6th paragraph, means plus function type of limitation. It is unclear from the specification what structure corresponds to this function. At first glance, it was assumed that the restriction (57, fig 13) was the means for restricting the flow rate, since restrictions restrict flows therethrough. On further consideration of fig 13, it is understood that it could also be the cylinder 55 with the bust 53, with or without the restriction 57. In order to meet the limitations of dependent claims, it must also include, as an alternate structure, the controller 47 of fig 12, with or without the flow sensor 49 and the actuator 46. Since it is unclear what structure corresponds to "means for restricting the flow rate", the metes and bounds of this limitation is unclear, and so the claim is indefinite.

Claims 22-25 and 27-45 are indefinite, since they depend from claim 21.

Double Patenting

Claims 21-25, 27, 31-36 and 43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,116,138 in view of Crosby, Roche and Johnson. Claim 3 of U.S. Patent No. 6,116,138 claims a hydraulic transformer converting a first fluid flow having a first pressure into a hydraulic power of a second fluid flow having a second pressure by supplying or discharging a third fluid flow having a third pressure, comprising a rotor freely rotatable in a housing, chambers varying in volume between a minimum and a

maximum (claim 1 line 1-13), and a face plate provided with face plate conduits for alternatingly connecting the fluid chambers with three line connections, which face plate is rotatable around a rotation axis by an adjustment means, and is provided with means for, without interruption, keeping a face plate conduit in communication with the respective line connection (claim 3 line 1-5); but does not claim that the transformer is part of an apparatus, which includes a high pressure line solely connecting a pressure source to the transformer, a connecting line connecting a hydromotor to the transformer; and a tank connected to the transformer or the connecting line; a control means controlling the adjustment means and including a sensor for measuring flow in the connecting line; with the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that there is a means for restricting the flow rate; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying; that the maximum volume is maximally three times the minimum volume; or that there is between nine and twelve chambers.

Crosby teaches, for a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjustment means (including 36) controlling a continuously variable setting of the transformer; that the transformer is part of a fluid system comprising a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6).

Since claim 3 of U.S. Patent No. 6,116,138 and Crosby are from the same field of endeavor, the system using the transformer of Crosby would have been appropriate for the transformer of 3 of U.S. Patent No. 6,116,138. It would have been obvious at the

time the invention was made to one having ordinary skill in the art to use the transformer of claim 3 of U.S. Patent No. 6,116,138 in a system wherein a connecting line solely connecting the transformer to a hydromotor; high and low pressure lines solely connecting the transformer to a pressure source and to a tank, respectively; and a control means, including a sensor, controlling the adjustment means to control the pressure in the connecting line, as taught by Crosby, as a matter of engineering expediency.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

Applicant's admitted prior art teaches that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line as the sensor of the modified claim 3 of U.S. Patent No. 6,116,138, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Applicant's admitted prior art teaches that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of the

modified claim 3 of U.S. Patent No. 6,116,138 a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Applicant's admitted prior art teaches that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of the modified claim 3 of U.S. Patent No. 6,116,138, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Johnson teaches, for a hydraulic motor (M) driven by a fluid flow, with a sensor sensing motor speed (35), and a controller controlling an amount of fluid flow to the motor; that the controller includes a section (38) which compares the motor speed (from 35, 37) with a maximum allowable speed (column 4 line 45-57) and decreases the fluid flow to the motor, for the purpose of slowing the motor, when it is moving too fast.

Since the modified claim 3 of U.S. Patent No. 6,116,138 and Johnson are from the same field of endeavor, the purpose disclosed by Johnson would have been pertinent to the modified claim 3 of U.S. Patent No. 6,116,138. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the controller of the modified claim 3 of U.S. Patent No. 6,116,138 include a section which compares the motor speed with a maximum allowable speed and decreases the fluid flow to the motor, as taught by Johnson, for the purpose of slowing the motor, when it is moving too fast. it is understood that the motor speed can be sensed using a number of different type of sensors, as discussed in the first Applicant's admitted prior art. It would appear that this combination would meet the limitation that there is a means for restricting the flow rate, since the above combination of elements appears to be the same as that of fig 12.

Claim Rejections - 35 USC § 103

Claims 21-25, 27 and 30-32 are rejected under 35 U.S.C. § 103 as being unpatentable over Crosby in view of Roche. Crosby discloses a fluid system comprising a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjusting means (including 36) controlling a continuously variable setting of the transformer; a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6); but does not disclose that the sensor measures flow in the connecting line, the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that there is a means for restricting the flow rate; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; or that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

Applicant's admitted prior art (since the official notice was not challenged in the reply to the last office action) teaches that flow to a hydromotor from a transformer can

be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line in place of the pressure sensor of Crosby, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Applicant's admitted prior art (since the official notice was not challenged in the reply to the last office action) teaches that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of Crosby a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Applicant's admitted prior art (since the official notice was not challenged in the reply to the last office action) teaches that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of Crosby, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Johnson teaches, for a hydraulic motor (M) driven by a fluid flow, with a sensor sensing motor speed (35), and a controller controlling an amount of fluid flow to the motor; that the controller includes a section (38) which compares the motor speed (from

35, 37) with a maximum allowable speed (column 4 line 45-57) and decreases the fluid flow to the motor, for the purpose of slowing the motor, when it is moving too fast.

Since Crosby and Johnson are both from the same field of endeavor, the purpose disclosed by Johnson would have been pertinent to Crosby. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the controller of Crosby include a section which compares the motor speed with a maximum allowable speed and decreases the fluid flow to the motor, as taught by Johnson, for the purpose of slowing the motor, when it is moving too fast. It is understood that the motor speed can be sensed using a number of different type of sensors, as discussed in the first Applicant's admitted prior art. It would appear that this combination would meet the limitation that there is a means for restricting the flow rate, since the above combination of elements appears to be the same as that of fig 12.

Conclusion

Claims 28, 29, 37-42, 44 and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

F. Daniel Lopez
Primary Examiner
Art Unit 3745
February 16, 2005